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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/966,269	10/01/2001	Takashi Sasaki	001458.00014	5401

22907 7590 03/22/2004

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EXAMINER	
BERMAN, SUSAN W	

ART UNIT	PAPER NUMBER
1711	

DATE MAILED: 03/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/966,269	SASAKI ET AL.	
	Examiner	Art Unit	
	Susan W Berman	1711	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *19-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *19-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 02-13-2004 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 19 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 19, line 8, the phrase "higher than at least 90 ^{0}C" is indefinite because it is not clear whether the Tg is at least 90 ^{0}C or higher than 90 ^{0}C. In claim 20, line 8, the phrase "higher than at least 90 ^{0}C" is indefinite because it is not clear whether the Tg is at least 90 ^{0}C or higher than 90 ^{0}C. See page 2 in the instant specification which sets forth a Tg "of at least 90 ^{0}C". In claim 19, line 9, it is not clear what mixture applicant is referring to in the recitation "said mixture". It is believed that applicant intends to refer to the "low-molecular weight compound" set forth in lines 6-8.

It is noted that, in each of claims 19-21, the symbol for " ^{0}C" contains the wrong symbol and needs correction.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coady et al (4,608,409) in view of Newell et al (4,508,916). Coady et al disclose a process of coating an optical glass fiber with a composition and curing the composition with ultraviolet light. The Example teaches coating a glass plate, curing the coating composition and stripping the cured film from the glass plate. The composition employed comprises a polyacrylate-terminated polyurethane mixed with liquid acrylate-functional materials. High Tg acrylates, such as N-vinylpyrrolidone, isobornyl acrylate, dicyclopentenyl acrylate and acrylic acid, may be added (column 5, lines 13-22). A low Tg acrylate is added to confer softness and to adjust the viscosity of the composition. A linear aliphatic diacrylate may also be added. Coady et al do not mention the Tg of the urethane acrylate but do discuss the tensile modulus of the cured films, which is closely related to Tg, as stated in the instant specification on page 10. See Coady et al, column 6, lines 34-42. Coady et al do not mention whether the film produced would have the memory of a specified shape. Newell et al disclose analogous compositions comprising urethane acrylates and diluent monomers (column 10, lines 29-60). The urethane acrylates are curable by UV radiation or by electron beam irradiation in the absence of an initiator (column 1, lines 38-49).

Coady et al disclose a process of coating a shaped material (optical glass fiber or glass plate) with a urethane acrylate/acrylate monomer composition, curing the composition using UV light and stripping the cured film from the shaped material it was coated onto. It would have been obvious to one skilled in the art to omit the photoinitiator from the compositions disclosed by Coady et al and to use electron beam irradiation instead of UV irradiation to cure the compositions, as taught by Newell et al for the curing of analogous acrylated urethane/ acrylate monomer compositions. One of ordinary skill in the art at the time of the invention would have been motivated by a reasonable expectation that the compositions would cure successfully by irradiation with electron beam since the components of the disclosed compositions are known to be curable by electron beam irradiation. The glass plate or glass fiber disclosed by Coady et al meets the requirement for a "shaped part" in the instant claims. The composition applied and cured film

obtained would be expected to take the shape of the plate or fiber. Since the compositions described by Coady et al comprise components within the definitions of the compositions set forth in the instant claims, the cured compositions disclosed by Coady et al would be expected to have the same property of having "memory of a specified shape" as set forth in the instant claims. The burden of proof is shifted to applicant to provide evidence to the contrary.

Claims 19-21 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hodakowski (4,116,786). Hodakowski discloses a process of applying a composition to a substrate, curing the composition by ionizing or non-ionizing radiation and removing the cured composition from the substrate. See column 6, lines 52-55, column 7, line 56, to column 8, line 8, and the Examples. The substrate has a shape and is, therefore, a "shaped part", as required in the instant claims. The composition comprises an acrylate-capped polyether urethane, a low molecular weight polyfunctional acrylate and a monofunctional acrylate. The Tg value of the acrylated polyether urethane is not mentioned.

The instantly claimed process is anticipated wherein the urethane acrylate oligomer disclosed by Hodakowski has a Tg value lower than 50 ^{0}C after polymerization and the low molecular weight compound, such as cyclohexyl acrylate or isobornyl acrylate, has a Tg value higher than "at least 90 ^{0}C" after polymerization. Alternatively, It would have been obvious to one skilled in the art to select a urethane acrylate having a Tg value lower than 50 ^{0}C after polymerization and the low molecular weight compound, such as cyclohexyl acrylate or isobornyl acrylate, having a Tg value higher than "at least 90 ^{0}C" after polymerization from the compositions disclosed by Hodakowski. The polyfunctional acrylate disclosed by Hodakowski can be an adduct of isophorone diisocyanate or toluene diisocyanate and hydroxyethyl acrylate (column 4, lines 61-68).

With respect to the instant claims, it is noted that the phrase "for making a cured film having the memory of a specified shape" is a statement of an intended future property of the product resulting from the process set forth in the claims. There is no comparative showing of record that establishes that the processes disclosed by the references do not provide shape memory to the products obtained and that the process claimed by applicant does. In the absence of such a showing, it is the examiner's position that the process steps and composition taught in the cited references would be expected to provide shape memory properties. Furthermore, applicant, on page 4, lines 3-10, of the instant specification sets forth that ultraviolet curing in the presence of photosensitizers, as well as electron beam curing, also results in curing the disclosed resin compositions and providing shape memorizing properties.

Specification

A substitute specification excluding the claims is required pursuant to 37 CFR 1.125(a) because the top margin on each page was not sufficient so that the top line of each page contains words that are not clear because holes have been punched in each paper to place the papers in a file folder.

A substitute specification filed under 37 CFR 1.125(a) must only contain subject matter from the original specification and any previously entered amendment under 37 CFR 1.121. If the substitute specification contains additional subject matter not of record, the substitute specification must be filed under 37 CFR 1.125(b) and (c)

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan W Berman whose telephone number is 571 272 1067. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571 272 1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Susan Berman

Susan W Berman
Primary Examiner
Art Unit 1711

SB
March 16, 2004